

WHAT IS CLAIMED IS:

Sub AI
1. A modem, comprising:
communication circuitry operable to facilitate
communication over a communication link;

5 at least one capacitor operable to store a voltage when a
power supply is supplying at least a threshold voltage to the
modem;

10 at least one diode coupled between the power supply and
the at least one capacitor, the diode operable to operate in a
forward bias state while the power supply is supplying at
least the threshold voltage; and

15 a power loss sensor coupled in parallel with the diode
and in series with the communication circuitry, the power loss
sensor operable to detect a reverse bias state of the diode
and to signal the communication circuitry to communicate a
power loss signal over the communication link.

20 2. The modem of Claim 1, wherein the power loss sensor
comprises a digital detector operable to detect the presence
or absence of a voltage between the diode and the power
supply.

3. The modem of Claim 1, wherein the power loss sensor
comprises:

25 a comparator having a first input coupled between the
power supply and the diode and a second input coupled between
the diode and the at least one capacitor; and

a transistor coupled to an output of the comparator.

30 4. The modem of Claim 1, wherein the power supply
comprises a direct current power supply.

A 5. The modem of Claim 1, further comprising a resistor coupled in series with the diode.

6. The modem of Claim 1, further comprising a power supply circuit coupled in series with the diode, the power supply circuit operable to receive at least a portion of the threshold voltage from the power supply and to supply a voltage signal to the communication circuitry.

10 7. The modem of Claim 6, further comprising a power monitor coupled in series with the power supply circuit and in series with the communication circuitry, the power monitor operable to generate a reset signal when the voltage signal supplied by the power supply circuit to the communication
15 circuitry falls outside an acceptable voltage range.

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8. A system for power loss notification, comprising an apparatus operable to receive power from a power supply, the apparatus comprising:

at least one capacitor operable to store a voltage when
5 the power supply is supplying at least a threshold voltage to the apparatus;

at least one diode coupled between the power supply and the at least one capacitor, the diode operable to operate in a forward bias state while the power supply is supplying at
10 least the threshold voltage; and

a power loss sensor coupled in parallel with the diode, the power loss sensor operable to detect a reverse bias state of the diode.

15 9. The system of Claim 8, wherein the power loss sensor comprises a digital detector operable to detect the presence or absence of a voltage between the diode and the power supply.

20 10. The system of Claim 8, wherein the power loss sensor comprises:

a comparator having a first input coupled between the power supply and the diode and a second input coupled between the diode and the at least one capacitor; and

25 a transistor coupled to an output of the comparator.

11. The system of Claim 8, wherein the power supply comprises a direct current power supply.

30 12. The system of Claim 8, further comprising a resistor coupled in series with the diode.

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13. The system of Claim 8, further comprising a power supply circuit coupled in series with the diode, the power supply circuit operable to receive at least a portion of the threshold voltage from the power supply and to supply a voltage signal to the apparatus.

14. The system of Claim 13, further comprising a power monitor coupled in series with the power supply circuit, the power monitor operable to generate a reset signal when the voltage signal supplied by the power supply circuit falls outside an acceptable voltage range.

15. The system of Claim 8, wherein the power supply is integral with the apparatus.

16. The system of Claim 8, wherein the power supply sensor is operable to detect a reverse bias state of the diode and to signal communication circuitry to communicate a power loss signal over a communication link.

A1 17. A method for power loss notification, comprising:
receiving at least a threshold voltage from a power
supply;

charging at least one capacitor when the power supply is
5 supplying at least the threshold voltage;

failing to receive at least the threshold voltage from
the power supply;

reverse biasing at least one diode coupled between the
power supply and the at least one capacitor; and

10 detecting the reverse bias state of the diode.

18. The method of Claim 17, wherein a digital detector
detects the reverse bias state of the diode by detecting the
presence or absence of a voltage between the diode and the
15 power supply.

19. The method of Claim 17, wherein a power loss sensor
detects the reverse bias state of the diode, the power loss
sensor comprising:

20 a comparator having a first input coupled between the
power supply and the diode and a second input coupled between
the diode and the at least one capacitor; and

a transistor coupled to an output of the comparator.

25 20. The method of Claim 17, wherein the power supply
comprises a direct current power supply.

21. The method of Claim 17, wherein receiving at least a
threshold voltage from a power supply comprises receiving at
30 least a portion of the threshold voltage at a power supply
circuit, the power supply circuit operable to generate a
voltage signal.

A/ 22. The method of Claim 21, further comprising generating a reset signal when the voltage signal generated by the power supply circuit falls outside an acceptable voltage range.

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23. The method of Claim 17, further comprising communicating a power loss signal over a communication link in response to detecting the reverse bias state of the diode.

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24. A modem, comprising:
communication circuitry operable to facilitate
communication over a communication link;

at least one capacitor operable to store a voltage when a
5 power supply is supplying at least a threshold voltage to the
modem;

at least one diode coupled between the power supply and
the at least one capacitor, the diode operable to operate in a
forward bias state while the power supply is supplying at
10 least the threshold voltage;

a power supply circuit coupled in series with the diode,
the power supply circuit operable to receive at least a
portion of the threshold voltage from the power supply and to
supply a voltage signal to the communication circuitry;

15 a power monitor coupled in series with the power supply
circuit and in series with the communication circuitry, the
power monitor operable to generate a reset signal when the
voltage signal supplied by the power supply circuit to the
communication circuitry falls outside an acceptable voltage
20 range; and

a power loss sensor coupled in parallel with the diode
and in series with the communication circuitry, the power loss
sensor operable to detect a reverse bias state of the diode
and to signal the communication circuitry to communicate a
25 power loss signal over the communication link, the power loss
sensor comprising:

a comparator having a first input coupled between
the power supply and the diode and a second input coupled
between the diode and the at least one capacitor; and

30 a transistor coupled to an output of the comparator.

AI

25. A method for power loss notification, comprising:

receiving at least a threshold voltage from a power supply at a modem;

charging at least one capacitor when the modem is

5 receiving at least the threshold voltage from the power supply;

supplying a voltage signal to communication circuitry in the modem using at least a portion of the threshold voltage from the power supply;

10 failing to receive at least the threshold voltage from the power supply;

reverse biasing at least one diode coupled between the power supply and the at least one capacitor; and

detecting the reverse bias state of the diode using a

15 power loss sensor, the power loss sensor comprising:

a comparator having a first input coupled between the power supply and the diode and a second input coupled between the diode and the at least one capacitor; and

a transistor coupled to an output of the comparator.

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